DOCUMENT RESUME

ED 322 979 JC 900 482

AUTHOR Andrews, William M.; Lillibridge, Fred
TITLE El Paso Community College Economic Impact Study.
INSTITUTION El Paso Community Coll., Tex.
PUB DATE Aug 90
NOTE 23p.
PUB TYPE Reports - Evaluative/Feasibility (142) -- Statistical Data (110)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Community Colleges; Consumer Economics; *Economic Development; Economic Factors; *Economic Impact; Economic Research; *Educational Economics; Expenditure per Student; Job Development; *School Community Relationship; Two Year Colleges

ABSTRACT

Using 1988-89 financial data, El Paso Community College (EPCC) initiated a study to estimate the economic impact of EPCC on El Paso County and on Texas. Three major expenditure components were used to estimate direct economic impact: college budgetary expenditures; college employee expenditures; and student expenditures. Indirect economic impact was estimated through application of an economic multiplier which estimates the value of earnings and other college acquired resources which have been re-spent by college employees and students in the economy. Major findings of the study included the following: (1) more than $109 million of the state's economy was a direct result of spending by EPCC (16.8%), its students (65.1%), and its employees (18.1%); (2) a business volume or economic impact of more than $271 million was generated by expenditures of EPCC, its students, and its employees as determined by application of the economic multiplier; (3) when considering all revenue sources, each dollar which EPCC received and spent resulted in $4.90 of statewide economic impact; (4) each dollar of state aid revenue to the college resulted in an economic impact of $13.45; (5) 6,816 jobs were attributable to the existence and expenditures of EPCC; (6) in El Paso County, nearly $107.5 million are attributable to EPCC student expenditures (66.4%), college expenditures (15.1%), and employee expenditures (18.5%); and (7) an estimated business volume of more than $234.5 million was generated by expenditures of the college, its students, and its employees as determined by application of the multiplier. Study methodology and limitations are discussed, and summary data tables are included. (JMC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED322919
SO 020982

El Paso Community College

Economic Impact Study

BY

William M. Andrews
Fred Lillibridge

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

W. M. Andrews

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☒ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

prepared by
Office of Institutional Research
El Paso Community College
August 1990

BEST COPY AVAILABLE

PREFACE

Economic impact studies are by their nature rather complex and somewhat theoretical. This report attempts to summarize the results of this study of the economic impact of El Paso Community College on El Paso County in non-technical terms. Nonetheless, the report contains sufficient detail to document the methodology and results of the study.

TABLE OF CONTENTS

INTRODUCTION 2
EXECUTIVE SUMMARY 4
METHODOLOGY 6
    Model Components and Definitions 6
    The Multiplier 8
    Employment Opportunities Created 9
LIMITATIONS OF THE STUDY 10
FINDINGS 11
    Economic Impact in Texas 11
        Direct 11
        Adjusted 11
        Job Opportunities 11
    Economic Impact in El Paso County 12
        Direct 12
        Adjusted 12
        Local Government Revenue 13
        Job Opportunities 13
SUMMARY 13
COMPUTERIZED MODEL OUTPUT 15
    Survey Form 16
    Preliminary Data for Detail Worksheet . . . 17
    Statewide Data 18
    Countywide Data 19
    Summary - Countywide Results 20
REFERENCES 21

EL PASO COMMUNITY COLLEGE
ECONOMIC IMPACT STUDY

INTRODUCTION

Providing the opportunity for higher education to all citizens who can benefit from the experience is essential to a society evolving with an accelerated technical revolution and rapid social change. Of equal importance is the need to achieve self-realization by those who grow and mature during an age of such rapid change. El Paso Community College, then, attempts to serve both the society and the individual through a comprehensive, balanced program of academic and vocational-technical career education.

To serve the diversified needs of the individual in contemporary society the El Paso Community College (EPCC) endorses the basic concepts of open-door admissions; and, therefore, it accepts the responsibilities of comprehensiveness and guidance which inevitably follow. By open door, the college implies that it will admit, to the limit of its physical and financial resources, all who wish to attend who have attained a high school diploma or its equivalent; or who are at least eighteen years of age, can benefit from the experience and whose high school class has graduated.

However, the extension of higher education must be qualitative as well as quantitative. To this end, the college will admit to specific programs only those students who, in its judgment, have the prerequisites for successful performance. Those who do not qualify initially will be given the opportunity to strengthen weaknesses.

El Paso Community College, within its defined role, will seek to enhance the quality of human endeavor for its

community, state and nation. It seeks to implement its philosophy by providing a wide range of programs. Such programs are designed to achieve the mission of the college and include the following:

1. Transfer degree programs which lead to further study toward a baccalaureate degree in four-year institutions.
2. Vocational technical-career programs designed to prepare the student for immediate employment.
3. Community services and adult education which provide opportunities for part-time instruction in credit and non-credit courses.
4. Development programs for students who have had limited success in academic achievement or who have been away from formal education for some time and may need to strengthen weaknesses.
5. Educational, personal and occupational counseling.
6. General education courses as a requirement for graduation or for personal growth and development.

However, EPCC does more than provide affordable access to higher education and service to El Paso. It has an economic impact on El Paso and on Texas. Since economic development is a priority of all segments of state government and EPCC is active in delivering education and training tailored to the needs of local business and industry, it is appropriate that the College examine the impact it has in economic terms.

EXECUTIVE SUMMARY

El Paso Community College provides citizens of El Paso equal access to quality higher education opportunities and services. However it also has an economic impact on El Paso County and on the State of Texas.

The findings demonstrate that EPCC can be viewed as a significant economic entity; one that contributes to economic development much like other segments of the economy. However, the more important benefits, such as an enhanced lifestyle and increased earning power associated with increased levels of education, were not included. The investment in developing human capital provides the most important return to the citizens of the state. Making higher education and technical skill training readily available to all citizens of El Paso remains the main thrust of EPCC. That the college also has a significant economic impact further reinforces the wisdom of public investment in this educational institution.

This study utilized the economic impact model developed and used in New Jersey. Minor adaptations were made regarding choice of multipliers and expenditure factors. Using 1988-89 financial data, calculations of each component of the model were performed resulting in the following findings.

STATE OF TEXAS

EPCC generates an economic impact in Texas as follows:

A. More than $109.7 million of the state's economy is a direct result of spending by EPCC (16.8%), its students (65.1%) and its employees (18.1%).

B. A business volume or economic impact of more than $271 million was generated by expenditures of EPCC, its students and its employees. The direct economic impact of $109.7 million is multiplied 2.47 times and results in a total economic impact of $271 million because parts of it are respent.

C. The ratio of total statewide economic impact to total revenues from all sources is 4.9 to 1. Therefore, regardless of its source, every dollar EPCC receives and spends results in $4.90 of economic impact.

D. The ratio of statewide economic impact to state aid revenue is 13.4 to 1. State aid amounts to just more than $20 million, but every dollar of it has an economic impact of $13.45.

E. 6,816 jobs are attributable to the existence and expenditures of EPCC. 1,196 are full time equivalent jobs at EPCC while 5,620 are the result of economic activity generated by EPCC. Therefore every job at EPCC results in 4.7 additional jobs.

COUNTY OF EL PASO

EPCC generates an average economic impact in El Paso County as follows:

A. EPCC accounts for nearly $107.5 million of direct economic impact in El Paso County. Student expenditures account for 66.4%, college expenditures for 15.1% and employee expenditures for 18.5% of the impact.

B. An estimated business volume of more than $234.5 million was generated within El Paso County by the expenditures of the college (15.1%), its students (66.4%) and employees (18.5%). The direct economic impact of $107.5 million is multiplied 2.18 times and results in a total economic impact of $234.5 million because parts of it are respent.

C. The ratio of total economic impact to each dollar of local government revenue is nearly 24 to 1. In other words, every dollar of revenue provided by local property taxes ($9.8 million) has an impact of $23.84 in the county.

D. For each existing job at EPCC, 4.7 additional jobs are created.

METHODOLOGY

The EPCC Office of Institutional Research initiated this study to estimate the economic impact of EPCC. A computer model developed in 1989 by the Two-Year College Committee of EACUBO [Eastern Association of College and University Business Officers] served as the basis to determine the economic impact of EPCC upon El Paso County and Texas.

The EACUBO computerized model is based on a study that was completed in 1988 for the community colleges within New York State by the Two-Year College Development Center located on the campus of SUNY-Albany (Fadale & Winter, 1988). Dr. Gene Winter conducted the study using a model developed by Dr. G. Jeremiah Ryan, Vice President for Institutional Advancement, Monroe Community College, which had been used in New Jersey and Kansas (Ryan, 1983).

The EPCC Economic Impact study did not employ the complex Caffrey and Isaacs methodology because the EACUBO approach more efficiently utilized data that is readily available and therefore, did not require extensive surveys of college employees and students.

Three major expenditure components were used to estimate direct economic impact: college budgetary expenditures, college employee expenditures and student expenditures. Indirect economic impact (adjusted economic impact) was estimated when direct economic impact was adjusted using an economic multiplier. The model also estimates the number of jobs created by the college's economic activity.

Model Components and Definitions - The three key components used in the economic impact model are detailed below.

1. **College Expenditures** - This component consisted of all expenditures made by the college except for salaries and wages, taxes, and internal transfers that were not subsequently expended externally. The sources of these data

were 1988-89 EPCC financial audit reports. Student activity expenditures were also included under this component.

An estimate of the percentage of expenditures within the county, within the state and out-of-state was calculated in order to determine impacts to both El Paso County and Texas. These estimates were based on analysis of actual EPCC expenditures from January 1990 to April 1990. Multiplying expenditures by the appropriate percentage results in an estimate of direct expenditures.

2. **Student Expenditures** - The number of full-time and part-time students was based on 1988-89 IPEDS reports. Estimates of expenditures of full-time students were made using financial aid schedules to determine nine-month living allowances and book costs for a single, dependent, full-time student living at home. Expenditures for part-time students were based on nine-month costs only for books, college-related supplies and transportation to and from classes. Tuition and fee amounts were not included.

3. **College Employee Expenditures** - The number of full-time, part-time, and full-time equivalent employees living in El Paso County, in Texas, and out-of-state was determined from personnel records. Employee annual disposable income was estimated based on the total money paid directly to all college employees, including group insurance but excluding taxes withheld and mandatory retirement deductions.

The average percent of disposable income spent in El Paso County was determined by dividing "Retail Sales Per Household-1988" by "Average Household Effective Buying Income-1988". Both data elements were found on State-By-State Listings of Metro Market Projections in the 1989 Survey of Buying Power in the journal, Sales and Marketing Management (1989). Average Household Effective Buying Income is defined as disposable personal income. College employees living in El Paso County, and in Texas, multiplied by the percentage derived above,

resulted in estimates of non-housing expenditures by employees.

Housing expenditures by employees who rent were 1988 estimates projected from 1980 census data provided by the University of Texas at El Paso, Bureau of Business and Economic Research. They were used to determine the percentage of renter-occupied housing units. The average monthly rent paid in El Paso County was estimated based on April 1990 survey data produced by Appraisal Associates of El Paso and Texas A & M University. The derived numbers were then applied to the employee numbers.

It was estimated that an average full-time out-of-state employee would spend $1,000 annually in El Paso County while a part-time employee would spend $500.

The Multiplier - The total of college, employee and student expenditure estimates became the direct economic impact. Indirect impact (adjusted economic impact) is also a fixture of economic impact studies. Each actual dollar spent is subsequently re-spent several times in the economy as providers of goods or services pay employees and, in turn, they purchase other goods or services. Economists use a multiplier to estimate this recycling effect. The following paraphrases a description of this effect:

> After the first dollar transaction, 75 cents may be re-spent in the state with taxes and leakage to other geographic regions accounting for the other 25 cents. The next cycle may have 2/3 of the 75 cents or 50 cents re-spent in the state, and perhaps 25 cents spent again on a subsequent transaction. This re-spending results in a total in-state impact of $1.50 more than the original dollar, or a total direct and indirect economic impact of $2.50. (Kansas Council of Community College Presidents, 1985)

Previous economic impact studies have used multipliers ranging from 1.5 to 3.0 for local college studies and 2.5 or higher for statewide studies. The studies done in New Jersey

and Kansas both used 2.0 to estimate local impact and 2.5 for statewide impact. SUNY selected 2.1 for use as the state impact multiplier. The EPCC study used 2.47. This figure was recommended as the appropriate Texas multiplier for college-related expenditures by the Bureau of Economic Analysis, U.S. Department of Commerce. Conventional wisdom deems the statewide multiplier to be somewhat higher than a regional multiplier, due to an assumption of less leakage.

Based on information from the Bureau of Business and Economic Research at the University of Texas at El Paso, the multiplier used to estimate adjusted indirect economic impact for El Paso County was 2.18.

Employment Opportunities Created - The existence of a college carries with it the necessity for creation of a number of jobs to carry out the functions of the college. In addition, expenditures by the college, its students and employees, increase economic activity which in turn results in the creation and support of additional jobs. Caffrey and Isaacs (1971) suggested that a coefficient of .00007 to .00009, multiplied by the direct expenditure, estimates the new jobs created by college-related expenditures. The Bureau of Economic Analysis, U.S. Department of Commerce identifies multipliers for all states. Their model determined that 51.2 new jobs are created in 1987 for each million dollars of output in colleges in Texas (Beemiller, 1990). Because of the currency of this multiplier and its more conservative result compared to the Caffrey and Isaacs figure, this study used .0000512 as the employment multiplier.

LIMITATIONS OF STUDY

Any study of this type only provides estimates of the real economic impact that community colleges have on a state. The model does not include some components that various adaptations of the Caffrey and Isaacs model have used such as: expansion of the credit base of local banks due to college-related deposits, expenditures by visitors to college-related events, and college employee investments in real property (home ownership). Nor does the model include state and local taxes paid by employees, increases in sales tax revenues due to college-related expenses, and estimates of tax revenue foregone because of college property being tax-exempt.

The exclusions, while overcoming the necessity of local surveys at each college, also insure underestimation of the actual economic impact.

The purpose of this study is to show a reasonable and defensible impact of the college as an economic entity, not to arrive at an optimum estimate of its economic value. It must be remembered that the most important mission of EPCC is to provide education and training to the citizens of El Paso and west Texas.

FINDINGS

Economic Impact in Texas - The economic impact of EPCC on the economy of Texas in 1988-89 was estimated to be:

College Expenditures	$18,429,210
Employee Expenditures	$19,894,080
Student Expenditures	$71,434,664
DIRECT ECONOMIC IMPACT	**$109,757,954**

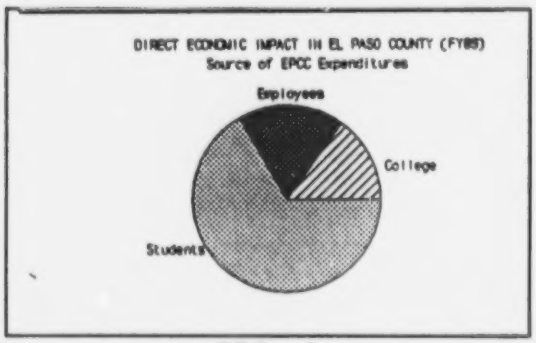

FIG. 1

More than 109.7 million dollars of the Texas economy is a direct result of spending by EPCC, its students and its employees. The largest component of the direct economic impact is student expenditures which account for nearly two-thirds (65.1%) of the total. College non-salary expenditures comprise 16.8% of the impact and employee expenditures account for 18.1%.

In order to account for the additional business volume that results from re-spending that occurs following the original expenditure, the multiplier of 2.47 was applied to the total direct economic impact. A business volume (adjusted economic impact) of over $271.1 million was generated in Texas by the expenditures of EPCC, its students and employees.

ADJUSTED ECONOMIC IMPACT	**$271,102,146**

Job Opportunities - The employment opportunities created by EPCC's existence and its expenditures were estimated by using the multiplier of 51.2 for each million dollars of direct economic impact. This results in an estimated 5,620

jobs created in Texas. When added to the 1,196 full-time equivalent (FTE) jobs already existing at EPCC, the result is a total of 6,816 jobs in Texas that can be attributed to EPCC.

Economic Impact in El Paso County - The model was also used to estimate the economic impact of EPCC on El Paso County. Of the total in-state direct expenditures by EPCC, its faculty and students, 98%, or just more than $107.5 million, is spent within El Paso County. Listed below are estimated expenditures in the county:

College Expenditures	$16,280,303
Employee Expenditures	$19,864,032
Student Expenditures	$71,434,664
DIRECT ECONOMIC IMPACT	**$107,578,999**

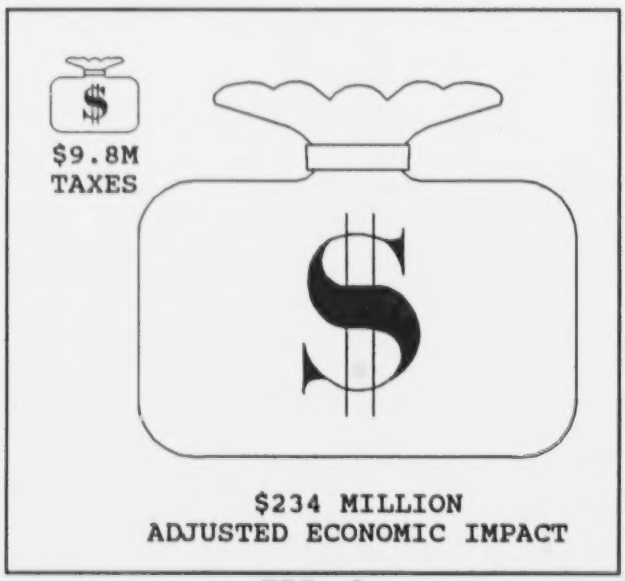

FIG. 2

More than $107.5 million was spent by El Paso Community College, its employees and its students, within the county (see FIG 1). Of these estimated expenditures, student expenditures account for 66.4% of the direct economic impact. College expenditures account for 15.1% and employee expenditures account for 18.5% of the direct economic impact in El Paso County.

ADJUSTED ECONOMIC IMPACT **$234,522,218**

When Direct Economic Impact was adjusted by the multiplier a business volume (adjusted economic impact) of more than

$234.5 million was generated by the expenditures of a college, its employees, and its students.

Local Government Revenue - was just more than $9.8 million dollars. The ratio of each local dollar to total estimated economic impact is $1.00 to $23.84 (see FIG 2).

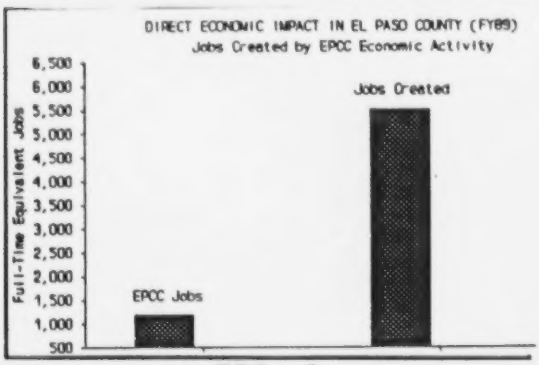

FIG. 3

Job Opportunities - The existence and expenditures of EPCC results in the creation of new jobs as a result of the economic activity (see FIG 3). When the employment multiplier of 51.2 is applied to the direct economic impact, the result is an estimate of 5,508 jobs created in the county. EPCC has 1,194 existing full-time equivalent jobs. This results in a finding of estimated total of 6,702 employment opportunities attributable to the college. Stated another way, for each existing job at EPCC, 4.6 are created in El Paso County.

SUMMARY

This study used the economic impact model provided by EACUBO that was developed and used in New Jersey and subsequently used in Kansas and New York to estimate the economic impact of community colleges. Minor adaptations were made, primarily in the choice of multipliers and expenditure factors. Calculations of each component of the model were performed using 1988-89 financial data.

El Paso Community College generates an economic impact in Texas as follows:

A. More than $109.7 million of the state's economy is a direct result of spending by EPCC, its students and its employees.

B. A business volume or economic impact of more than $271 million was generated by expenditures of EPCC, its students and its employees.

C. The ratio of total statewide economic impact to total revenues from all sources is 4.9 to 1.

D. The ratio of statewide economic impact to state aid revenue is 13.4 to 1.

E. Nearly 6,816 jobs are attributable to the existence and expenditures of EPCC.

EPCC generates an average economic impact in El Paso County as follows:

A. Student expenditures account for 66.4%, college expenditures for 15.1% and employee expenditures for 18.5% of the direct economic impact.

B. Nearly $107.5 million was spent by EPCC, its employees and students within El Paso County.

C. An estimated business volume (adjusted economic impact) of nearly $234.5 million was generated within El Paso County by the expenditures of the college, its students and employees.

D. The ratio of adjusted economic impact to each dollar of local government revenue is nearly 24 to 1.

E. For each existing job at EPCC, 4.6 additional jobs are created in the county.

The findings demonstrate that EPCC can be viewed as a significant economic entity; one that contributes to economic development much like other segments of the economy. However, the more important benefits, such as an enhanced lifestyle and increased earning power associated with increased levels of education, were not considered in this study. The investment in developing human capital provides the most important return to the citizens of the state. Making higher education and technical skill training readily available to all citizens of El Paso remains the primary mission of EPCC. That these individuals also have a significant economic impact further

reinforces the wisdom of public investment in this educational institution.

EACUBO COMPUTER MODEL OUTPUT

The following five pages are the edited output of the EACUBO computer model. They are provided here as background for the findings and summaries presented in this report. They also will be useful as a reference.

Economic Impact Study Model

SURVEY FORM

1.	EPCC Expenditures:	$23,294,369
2.	Total Student Activity Expenditures:	$63,312
3.	Percentage of EPCC Expenditures --	
	a. in El Paso County:	70%
	b. in Texas:	79%
	c. out-of-state:	21%
4.	Number of EPCC Employees --	
	a. full-time:	848
	b. part-time:	1,901
	c. TOTAL NUMBER:	2,749
	d. FTE for above:	1,229
5.1	EPCC Employees Who Live in El Paso County --	
	a. full-time:	824
	b. part-time:	1,846
	c. TOTAL:	2,670
	d. FTE for above:	1,194
5.2	EPCC Employees Who Live in Texas --	
	a. full-time:	825
	b. part-time:	1,849
	c. TOTAL:	2,674
	d. FTE for above:	1,196
6.	Total Disposable Income Available -- to Employees:	$32,357,697
7.	Number of Students --	
	a. full-time:	7,522
	b. part-time:	9,044
	c. TOTAL:	16,566
8.	Average Annual College-related Expenditures -- by Full-time Students:	$5,404
9.	Average Annual College-related Expenditures -- by Part-time Students:	$3,404
10.	Revenue From:	
	Students:	$7,305,276
	Local Governments:	$9,838,118
	State Aid:	$20,141,336
	Other Sources within State:	$1,865,969
	Out-of-state Sources:	$16,064,126

Economic Impact Study Model

PRELIMINARY DATA FOR DETAIL WORKSHEET
EL PASO COMMUNITY COLLEGE

Estimate of % of Employee Expenditures in El Paso County (estimated from Sales and Marketing Management, Vol. 141 #14):	58.62%
Total Number of Out-of-County --	
Full-time employees:	24
Part-time employees:	55
Total Number of Out-of-State --	
Full-time employees:	23
Part-time employees:	52
Estimate of Annual Expenditures in El Paso County by EPCC employees residing Out-of-County --	
Full-time employees expenditures:	$1,000
Part-time employees expenditures:	$500
Census Data --	
Percentage Who Rent in El Paso County:	40.01%
Mean Monthly Rent in El Paso County:	$350
Multiplier Effect --	
Local:	2.18
State:	2.47
Multiplier for Jobs related to EPCC	0.0000512

Economic Impact Study Model

STATEWIDE DATA
EL PASO COMMUNITY COLLEGE

A.	Total Student Activity Expenditures in Texas:	$49,953
B.	College Expenditures in Texas:	$18,379,257
C.	Total Expenditures in Texas by EPCC:	$18,429,210
D.	Expenditures in Texas on Non-housing Items by Employees Who Live in Texas:	$18,458,768
E.	Expenditures for Non-housing Items in Texas by Employees Who Live Out-of-State --	
	a. Full-Time:	$23,000
	b. Part-Time:	$26,000
F.	Rental Expenditures by Full-time EPCC Employees Living in Texas:	$1,386,312
G.	Total Employee Expenditures:	$19,894,080
H.	Total Expenditures By Full-time Students:	$71,434,664
I.	Total Direct Economic Impact of EPCC on Texas:	$109,757,954
J.	Multiplier Effect:	2.47
K.	**Adjusted Economic Impact:**	**$271,102,146**
L.	FTE Living in Texas:	1,196
M.	Full-time Jobs Related to EPCC:	5,620
N.	Total Full-time Employment Related to EPCC:	6,816

Economic Impact Study Model

COUNTYWIDE DATA
EL PASO COMMUNITY COLLEGE

A.	Total Student Activity Expenditures in El Paso County:	$44,128
B.	College Expenditures in El Paso County:	$16,236,175
C.	**Total In-County Expenditures by EPCC:**	**$16,280,303**
D.	Disposable Income Spent in El Paso County on Non-housing Items by Employees Who Live in El Paso County:	$18,427,901
E.	Expenditures for Non-housing Items in El Paso County by Employees Who Live Out-of-County --	
	a. Full-Time:	$24,000
	b. Part-Time:	$27,500
F.	Rental Expenditures by Full-time EPCC Employees Living in El Paso County:	$1,384,631
G.	**Total Employee Expenditures:**	**$19,864,032**
H.	Total Expenditures By Full-time Students:	$40,648,888
I.	Total Expenditures by Part-time Students:	$30,785,776
J.	**Total Expenditures by Students:**	**$71,434,664**
K.	**Total Direct Economic Impact of EPCC on El Paso County:**	**$107,578,999**
L.	Multiplier Effect:	2.18
M.	**Adjusted Economic Impact:**	**$234,522,218**
N.	Full-time Employees Living in El Paso County:	1,194
O.	Jobs Related to EPCC:	5,508
P.	Total Full-time Employment Related to EPCC:	6,702
Q.	Ratio of Local Government Contribution to Adjusted Economic Impact:	$1.00 to $23.84

Economic Impact Study Model

SUMMARY OF COUNTYWIDE RESULTS
EL PASO COMMUNITY COLLEGE

College budgetary expenditures (excluding salaries, wages and taxes):	$16,280,303
Employee expenditures (non-housing, rental by full/part-time, in El Paso County by employees who live out-of-county):	$19,864,032
Student expenditures (living and book allowances, excluding tuition and fees):	$71,434,664
Direct Economic Impact:	**$107,578,999**
Multiplier:	2.18
Adjusted Economic Impact:	**$234,522,218**
Total existing FTE positions:	1,194
Jobs attributable to EPCC:	5,508
Total Job Opportunities:	**6,702**
Ratio of Adjusted Economic Impact to Local Government Contributions ($9,838,118):	$23.84 to $1.00

REFERENCES

Beemiller, D. (1990, May 29). [Telephone conversation Dick Beemiller, regional economist for Bureau of Economic Analysis, US Department of Commerce]. Washington, DC.

Caffrey, J., & Isaacs, H. (1971). Estimating the impact of a college or university on the local economy. Washington, DC: American Council of Education.

Fadale, L., & Winter, G. (1988). The economic impact of the SUNY community colleges on the state of New York. Albany, NY: University of Albany, Two-Year College Development Center.

Kansas Council of Community College Presidents, (1985). The economic impact on the Kansas community colleges on the counties and state of Kansas, fiscal year 1983-84. Overland Park, KS: Office of Institutional Research, Johnson County Community College.

Ryan, G. (1983). The direct economic impact of New Jersey's community colleges (Doctoral dissertation, Nova University, 1983). (ERIC Document Reproduction Service No. ED 233 774).

Staff. (1989, November 13). State-By-State Listings of Metro Market Projections, 1989 Survey of Buying Power-Part II, Sales and Marketing Management,141(14), p. 103.

Two-Year College Committee of the Eastern Association of College and University Business Officers. (1989) The economic impact of colleges on their communities and states. Jamestown, NY: EACUBO.

ERIC Clearinghouse for Junior Colleges

OCT 19 1990